(1)
$$SiO_2 + 2H_2O$$
 \rightleftharpoons $Si(OH)_4$ $Si(ONa)_4$
Alkali NaOH

(2)
$$Si(OH)_4 + OH \rightleftharpoons HSiO_3 + 2H_2O$$

(3)
$$2HSiO_3 \rightleftharpoons SiO_2 + 2H_2O$$

(4)
$$HSiO_3 + OH \rightleftharpoons SiO_3 + H_2O$$

Fig. 1

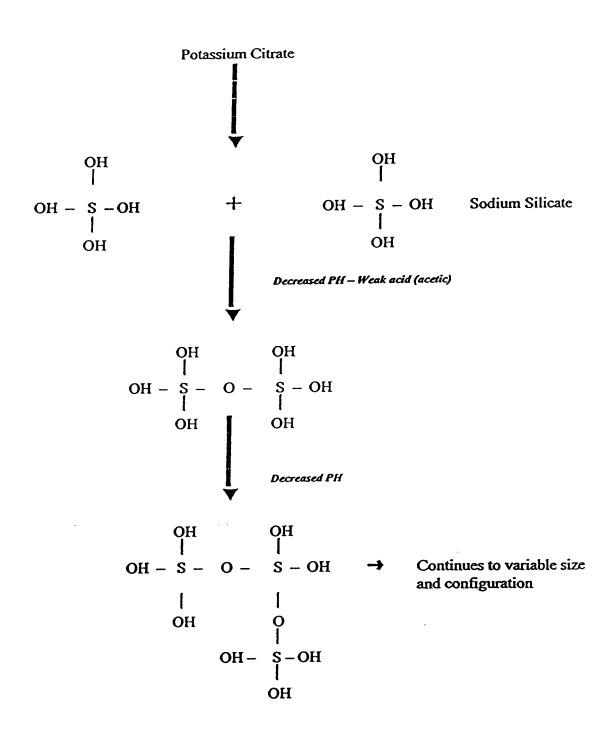


Fig. 2

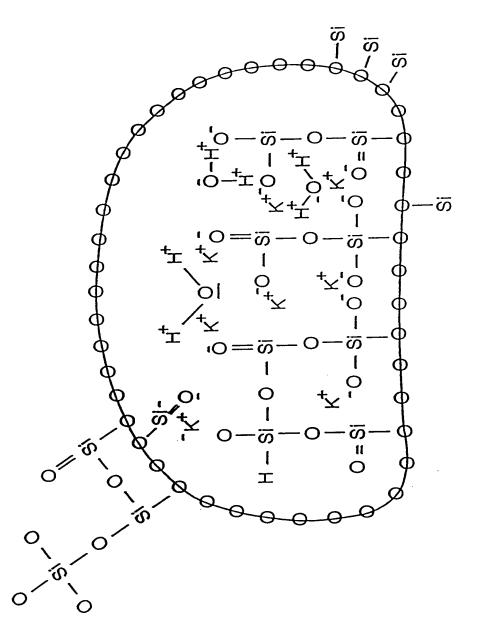


FIG. 3

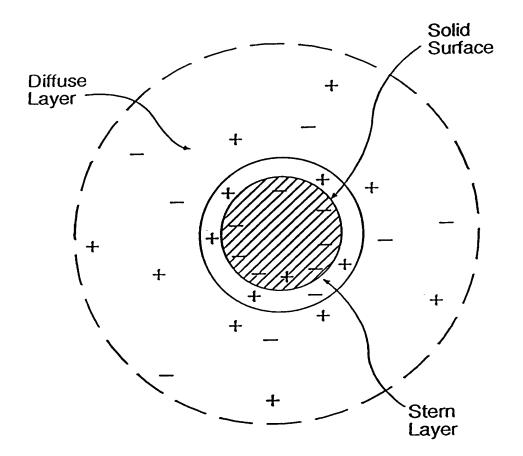


FIG. 4

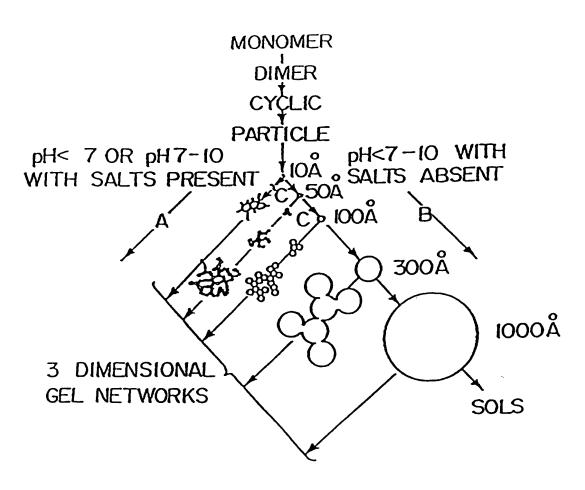


FIG. 5

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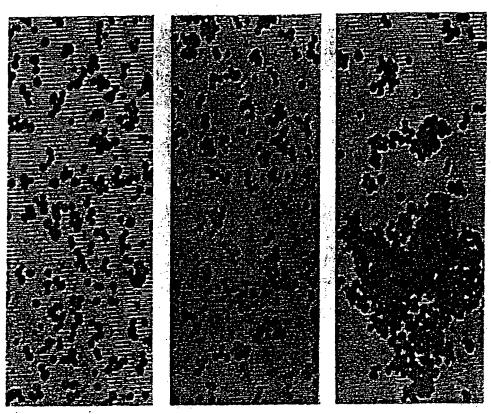


Fig. 26.—Electron micrographs showing stages of aggregation of 35 millimicron silica particles: *left*, colloidal aggregates; *center*, aggregates approaching colloidal size; *right*, supercolloidal aggregates or precipitate.

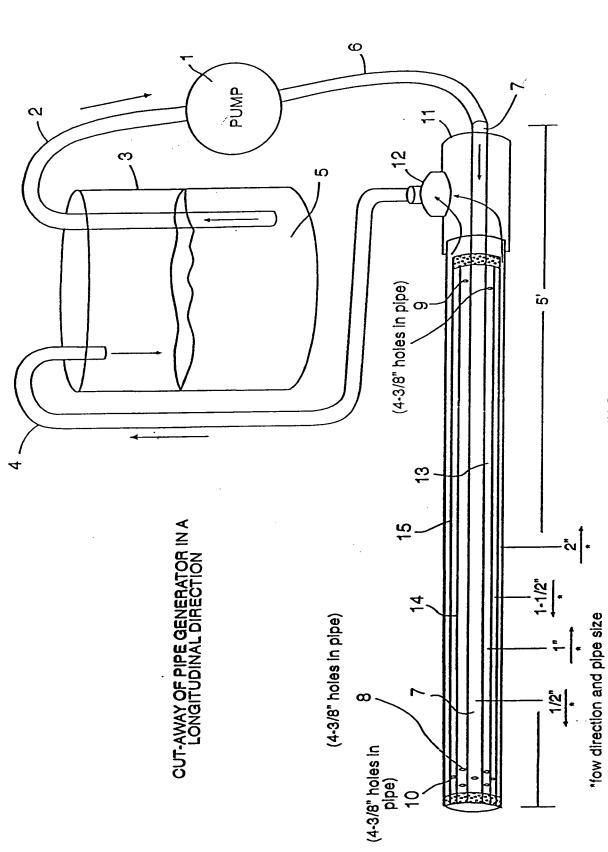
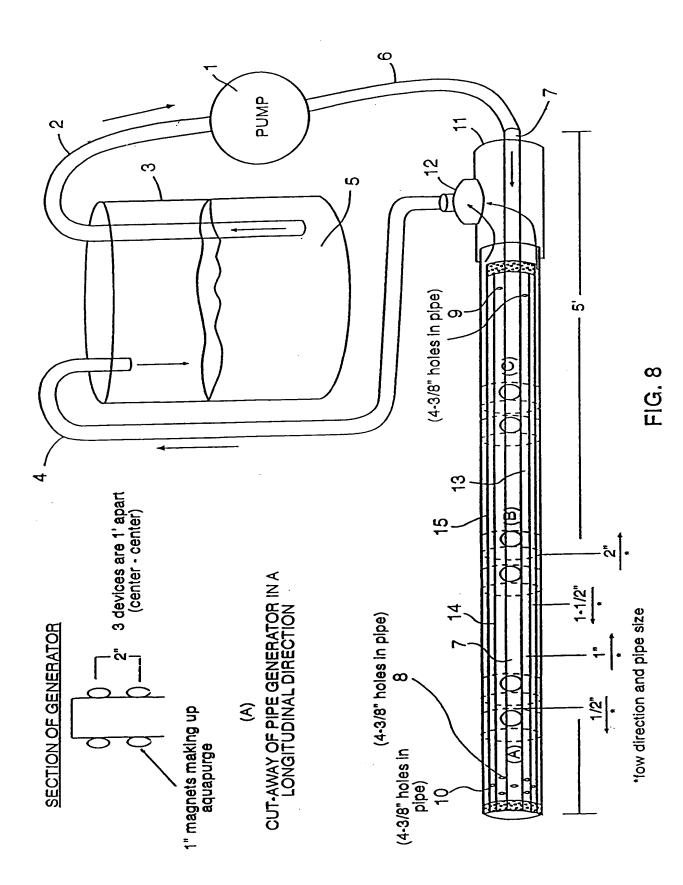
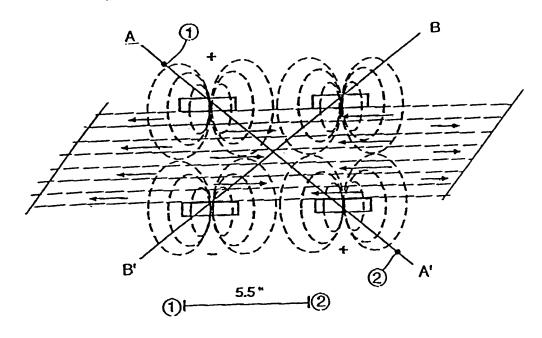


FIG. 7



Cross sectional view of counter current generator of the invention with lines A-A' and B-B' noted for measurement purposes.



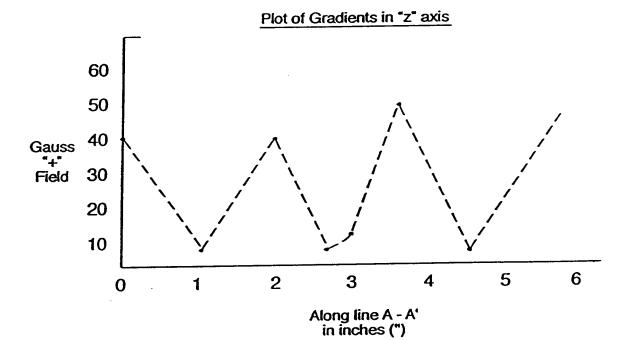


FIG. 9

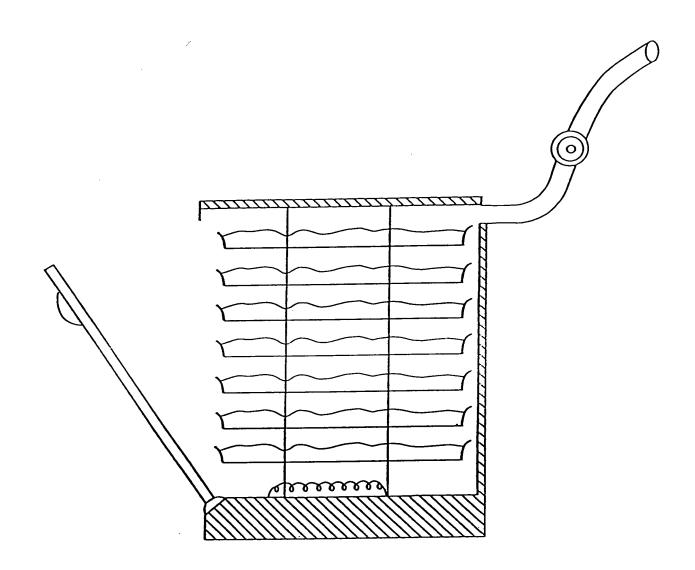


FIG. 10

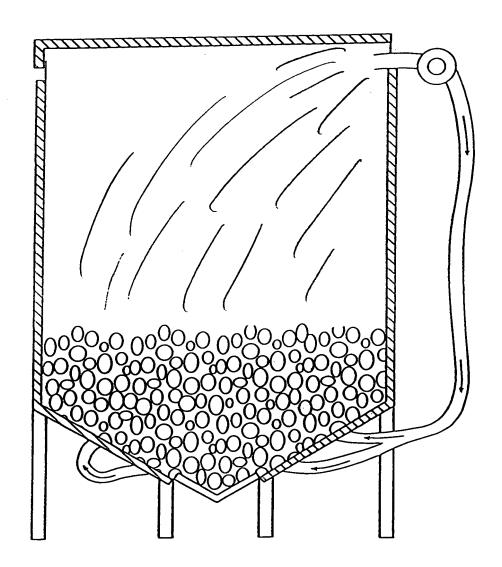


FIG. 11

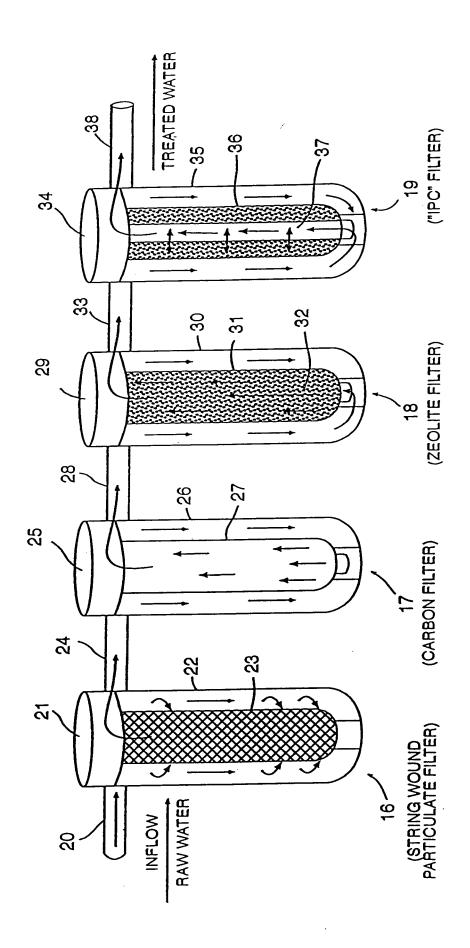


FIG. 12

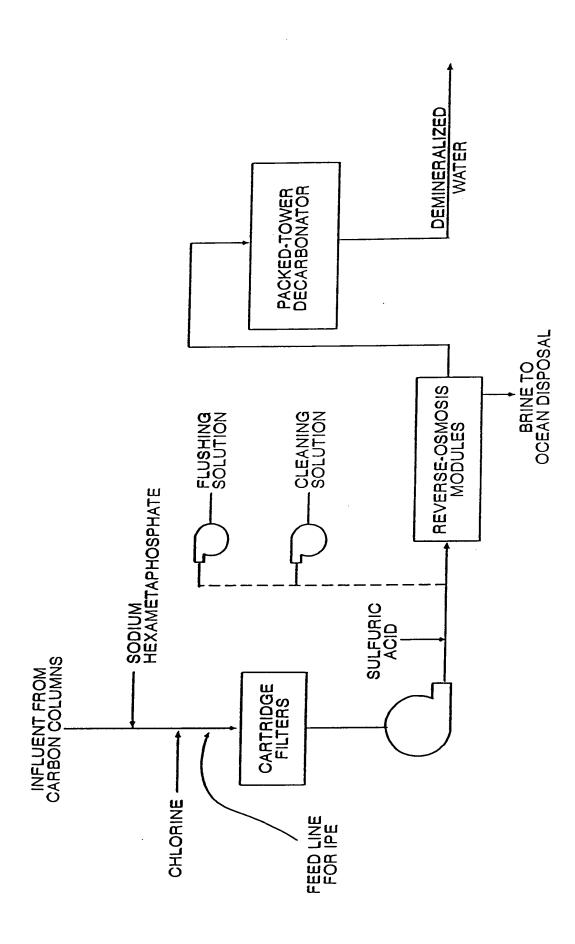
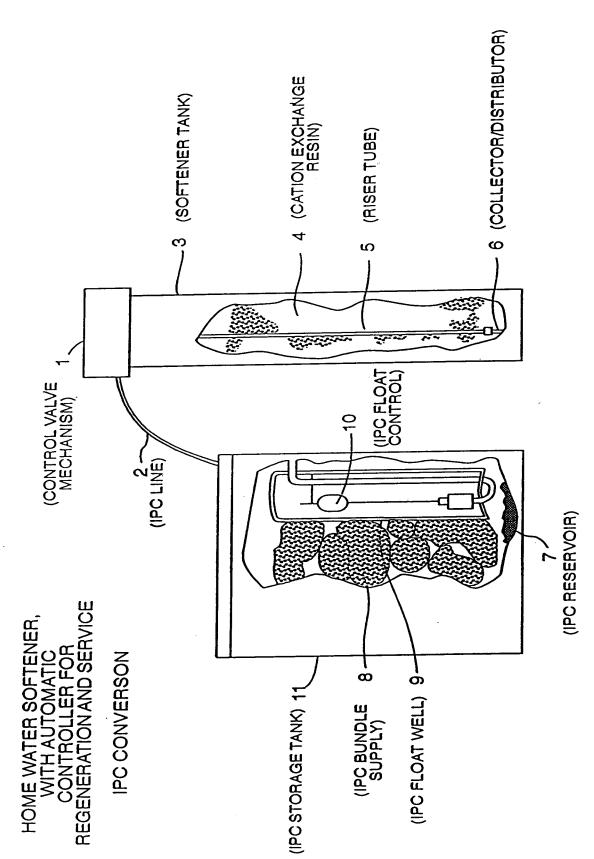


FIG. 20 13



16 14

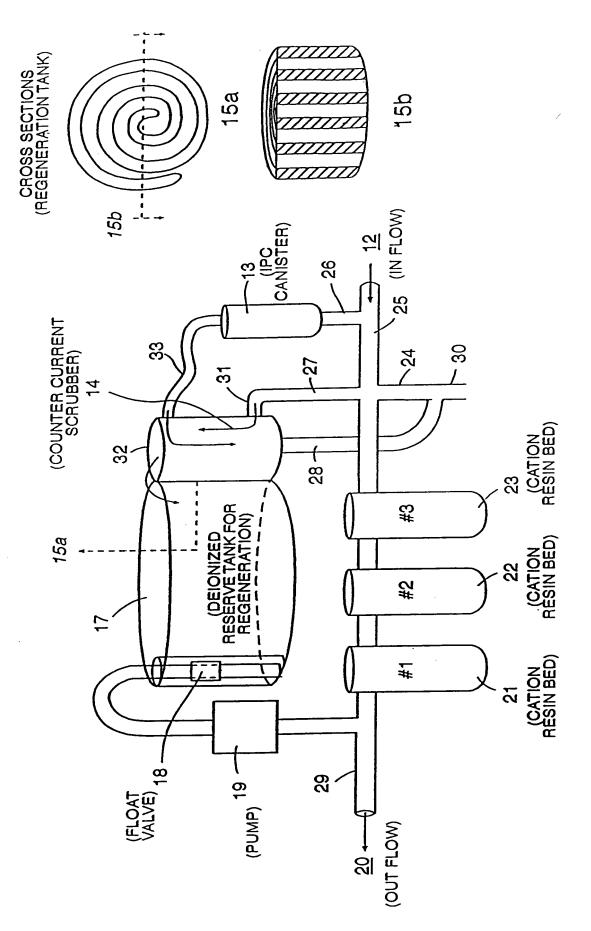


FIG. 15

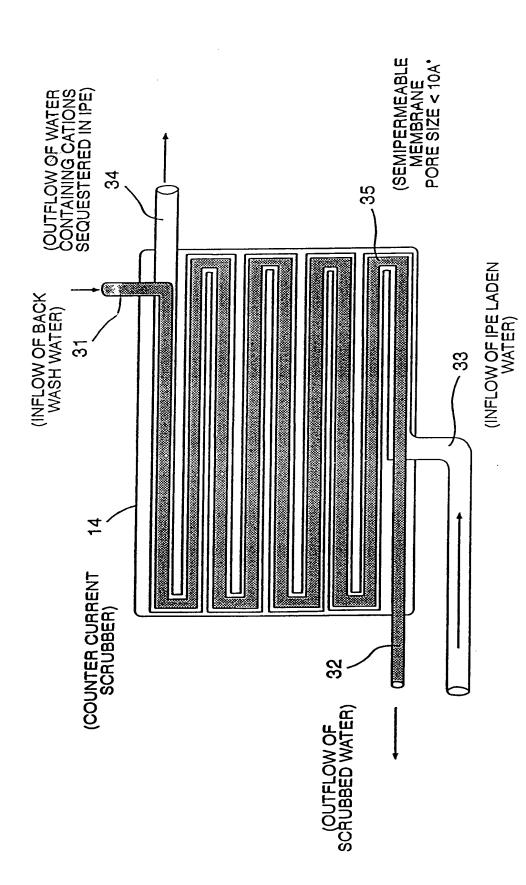


FIG. 16

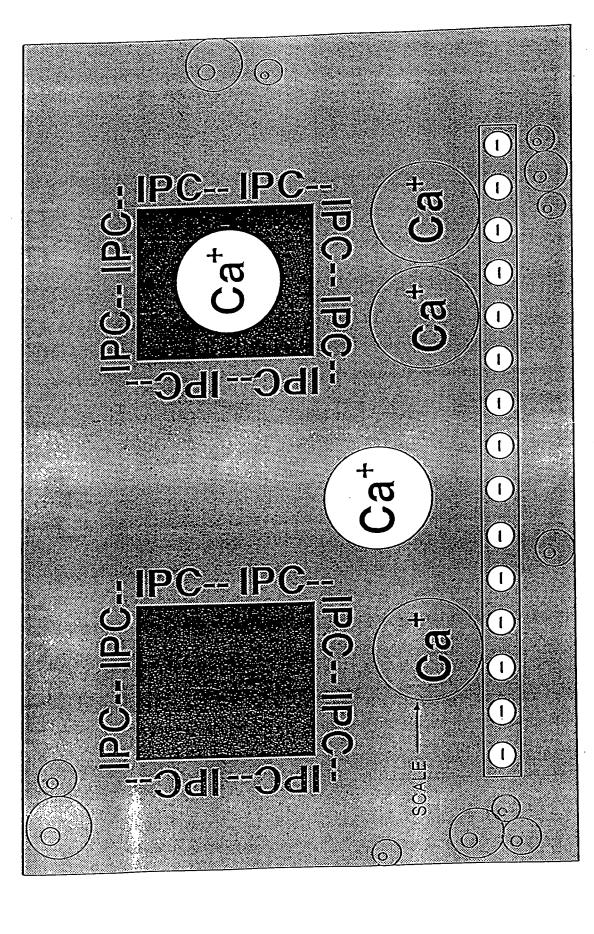


FIG. 17

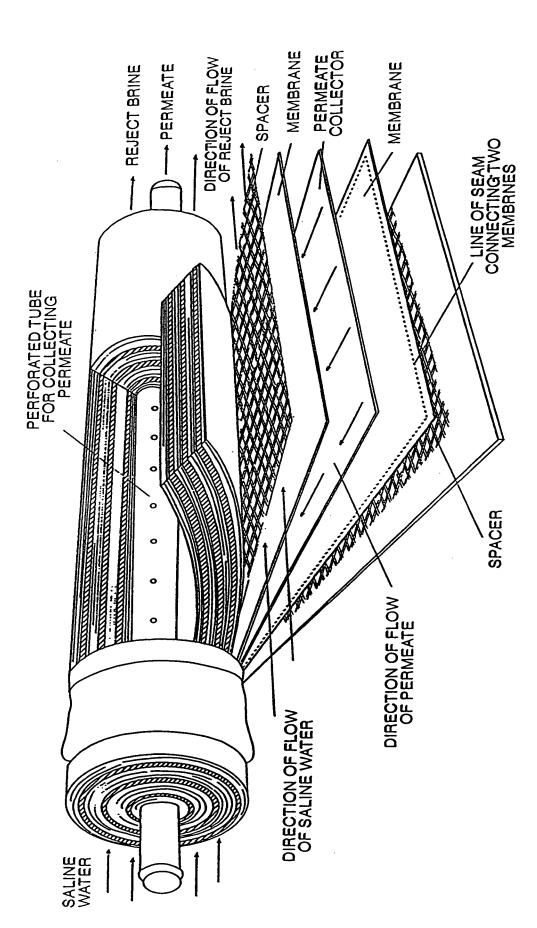


FIG. 18

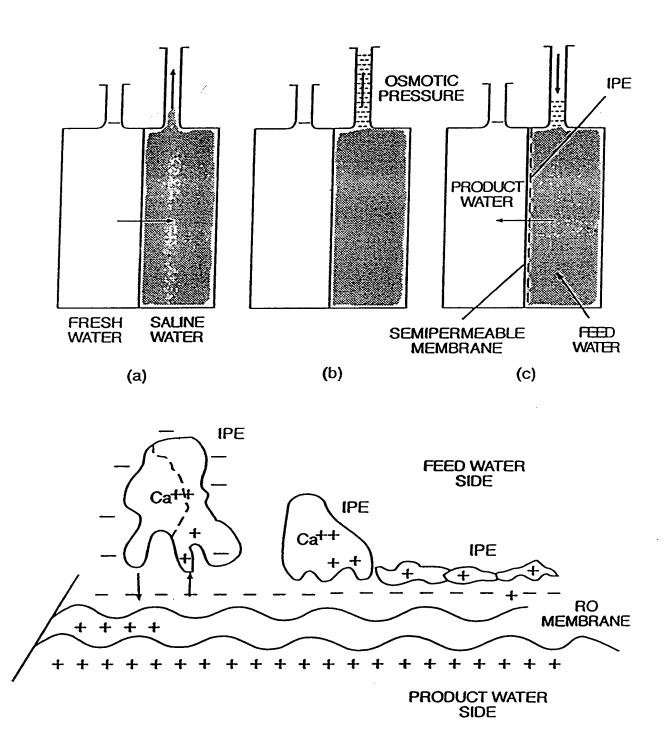


FIG. 19

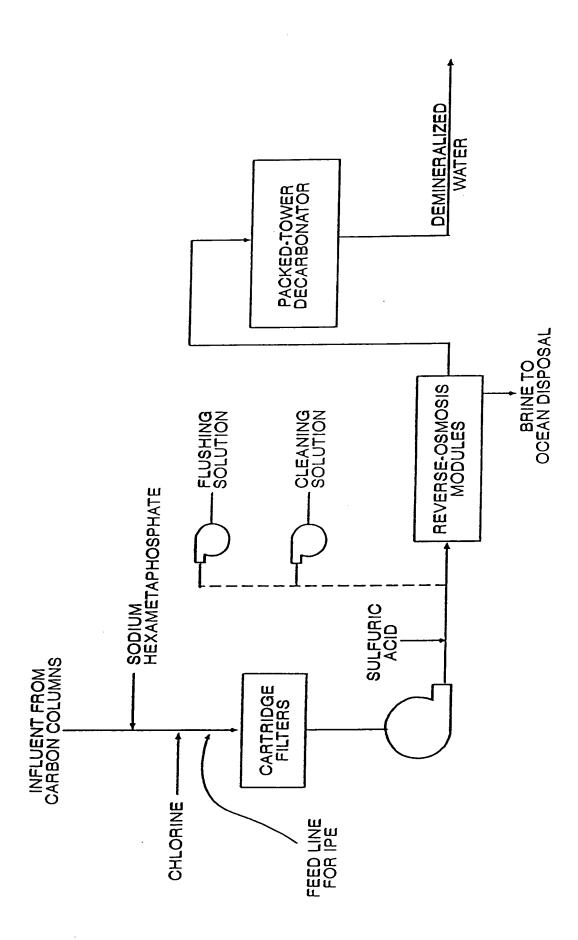


FIG. 20